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IV Features

- DVB-S/S2 MPEG-2 & H.264/MPEG-4 AVC Compliant
- IRDETO CA embedded Digital Satellite High Defintion Receiver
- Advanced Secure Chipset
- Quick and easy installation & user-friendly menu
- User friendly remote control with colored buttons functions
- 16:9 and 4:3 aspect ratio supported
- NTSC/PAL Video Output and Auto Conversion
- Resolution: 1080i, 720p, 480p/576p, 480i/576i
- Teletext supported: OSG & VBI Insertion for TV
- Subtitle supported: DVB Subtitle / Teletext Subtitle
- Electronic Program Guide (EPG) for present/following event information and up to 7 days for on screen program information
- High Speed Channel Zapping
- Dolby AC-3 Digital Audio Bitstream out through S/PDIF
- Excellent Audio and Video Quality
- SCPC & MCPC Receivable from C/Ku – Band
- HDMI with HDCP (High-bandwith Digital Content Protection)
- DiSEqC 1.0, 1.1, 1.2 and USALS Compatible
- 4 Digit 7 Segment Display
- Multilingual On Sreen Menu (OSD)
- Installation by Easy Setup Guide
- Software upgrade via OTA and through RS-232 Serial Port
- RJ-45 10/100Mbit/s Ethernet

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V Technical Specification

1. COMMODITY: IRDETO embedded MPEG-4 DVB-S2 High Definition (HD) Receiver

2. MODEL NAME: KSF-SA275IRi

3. DESIGN

[Front View]

[Rear View]

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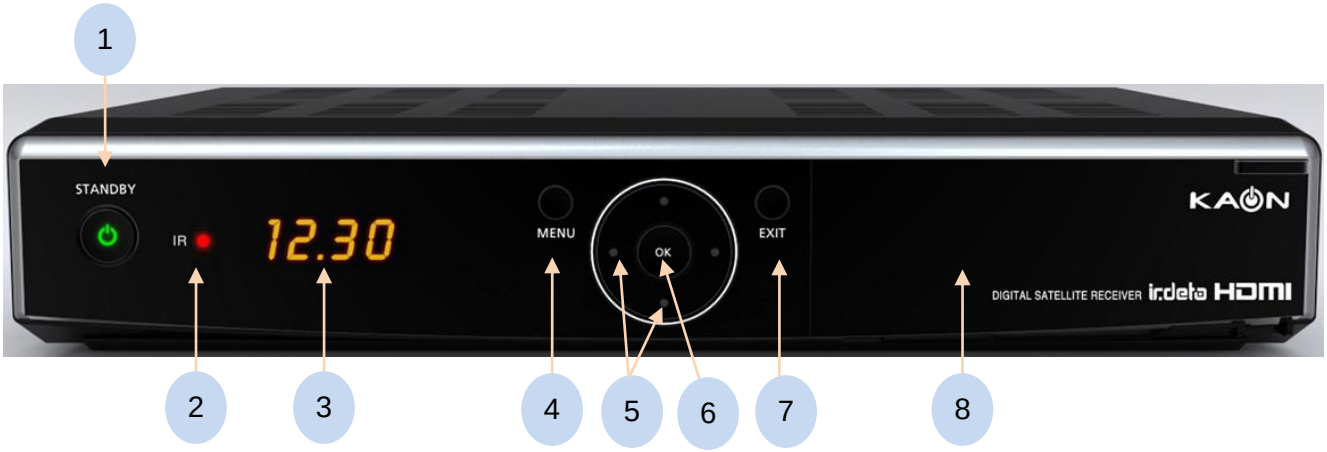
- The cosmetic color can be changed according to cusomer's requirement.

4. FRONT PANEL



① **STAND BY (POWER) :**
Used to switch the receiver to "ON" or OFF".

② **IR**
GREEN light is emitted when the product is in operation mode and RED light is emitted in standby mode.

③ **SEG. DISPLAY**
4-digit 7-segment display channel information

④ **MENU**
Used to see main menu.

⑤ **CHANNEL Up/Down (Program ▲/▼) VOLUME Up/Down ◄/►**
Used to change channels and volumes without using the reomote control.

⑥ **OK**
Used to select a program, a highlighted line or parameter value

⑦ **EXIT**
Used to exit from parameter and cancel selected function..

⑧ **SMART CARD SLOT**
A slot for Irdeto smart card.

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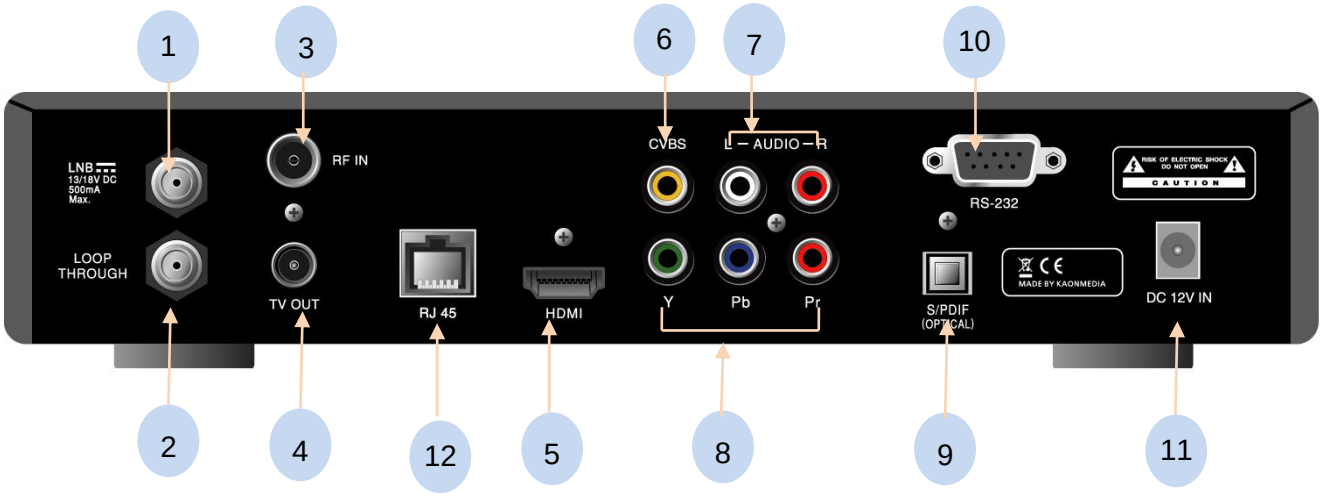
5. REAR PANEL



① **LNB IN:**
To connect a satellite antenna cable for receiving broadcasting signal.

② **LOOP THROUGH:**
To connect a TV set to receive analogue channels or to connect an extra receiver.

③ **RF IN:**
To connect to an antenna input.

④ **RF OUT:**
To connect a RF signal from the STB to either the RF input jack on your television or to the STB.

⑤ **HDMI:**
To connect to the TV using an HDMI cable.

⑥ **CVBS (VIDEO):**
To connect to your TV set without using a SCART cable or to VCR.

⑦ **AUDIO L/R:**
To connect the audio signal to an external amplifier or to the audio input of your TV.

⑧ **COMPONENT (Y,Pb,Pr):**
To connect to the TV or VCR using a component cable.

⑨ **S/PDIF (Optical):**
To connect your receiver to the audio system using an S/PDIF cable. (digital audio)

⑩ **RS-232:**
To connect to a personal computer for software upgrade.

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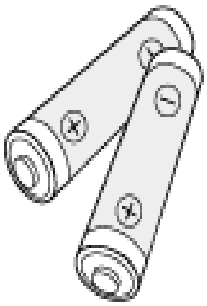
⑪ **DC 12V IN**
To connect to the power adapter.

⑫ **RJ-45**
To connect to LAN 10/100Mbit/s Ethernet

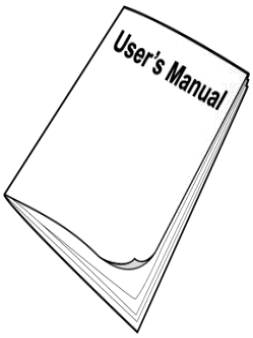
6. ACCESSORIES

(a)Remote Control Unit

(b) Batteries



(c) User's Manual



(e) AC/DC Power Adapter

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7. HARDWARE SPECIFICATIONS

MAIN CHIPSET	
CHIPSET	STi7111 Speed: 450MHz ST40-300 processor core that features a 16-bit superscalar RISC CPU IRDETO Advanced Secured Silicon

MEMORY	
FLASH	8MB NOR+128MB NAND
DDR2 SRAM	256MByte
EEPROM	32KByte

TUNER AND BAND SWITCHING	
NUMBER OF TUNERS	1
RF INPUT CONNECTOR	IEC 169-24, Female (F-Type)
RF LOOP THROUGH CONNECTOR	IEC 169-24, Male (F-Type)
INPUT FREQUENCY RANGE	950 – 2150MHz
INPUT IMPEDANCE	75Ω Unbalanced
SIGNAL LEVEL	-25 to -65dBm
IF FREQUENCY	480MHz
IF BANDWIDTH	36MHz
LNB POWER & POLARIZATION	Vertical: +13.5V Horizontal: +18V Current: Max. 500mA with overload protection
22KHz Tone	Frequency: 22 ± 4KHz Amplitude: 0.6 ± 0.2V
DiSEqC CONTROL	Version 1.0, 1.2 & 2.0 Compatible, USALS

DEMODULATOR	
WAVEFORM	QPSK

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SYMBOL RATE	1-45MS/s
OUTER DECODER	Reed Solomon (204,188,8)
INNER DECODER	Convolutional, Length K=7
CODE RATE	1/2, 2/3, 3/4, 5/6, 7/8
MPEG TRANSPORT STREAM A/V DECODING	
TRANSPORT STREAM	MPEG-2 ISO/IEC 13818 Transport Stream Specification
PROFILE LEVEL	MPEG-2 MP@ML MPEG-2 MP@HL and all lower levels MPEG-4 H.264/AVC MP@L3, HP@L3 and all lower levels MPEG-4 H.264/AVC HP@L4.1
ASPECT RATIO	4:3, 16:9 (Letter Box)
VIDEO RESOLUTION	1080i, 720p, 480p/576p, 480i/576i
AUDIO DECODING	MPEG/MusiCam Layer I & II, MP3 MPEG-2 Layer II, AAC+/Adts(AAC SBR) Dolby Digital AC3 Downmix MPEG-4 Audio High Efficiency (HE) AAC
AUDIO MODE	Single Channel / Dual Channel / Joint Stereo / Stereo
SAMPLING RATE	32, 44.1 and 44KHz

A/V & DATA INPUT/OUTPUT	
TV SCART	VIDEO Output (CVBS, RGB, S-VHS) AUDIO Output
VCR SCART	CVBS, Audio (L/R)
CVBS (VIDEO)	1 x RCA Cinch, VIDEO Output (CVBS)
AUDIO L/R	2 x RCA Cinch, Volume and Mute Control
SPDIF	1 x SPDIF (Optical) – Digital Audio Output
HDMI	1 x HDMI 1.3
COMPONENT	3 x RCA Cinch (Y,Pb,Pr)
RS-232 (DATA INTERFACE)	Transfer Rate 115,200bps, 9 Pin D-Sub Type
RJ-45	10/100Mbit/s Ethernet

POWER SUPPLY	
INPUT VOLTAGE	DC 12V 2.5A

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INPUT VOLTAGE FREQUENCY	50/60 Hz
AC POWER ADAPTOR	AC 100~240V 50/60Hz Max 2.5A
TYPE	External Adaptor
POWER CONSUMPTION	Max. 25W
STANDBY CONSUMPTION	Max. 1W

CONDITIONAL ACCESS SYSTEM	
SMART CARD READER	1 Slot (ISO 7816 Compliant)
EMBEDDED CAS	IRDETO

PHYSICAL CHARACTERISTICS	
SIZE (W x H x D)	250 x 45 x 190 [mm]
WEIGHT	Less than 1.8Kg
OPERATING TEMPERATURE	0ºC to +45ºC
STORAGE TEMPERATURE	-10ºC to +70ºC

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8. SOFTWARE SPECIFICATIONS

Common Specifications

FEATURE	DETAILS
EPG	STB implement the 7 days EPG based on EIT schedule. The EPG give an overview of the available services, the overview is in accordance with the active service list. It is possible to switch service from the first service overview page in the EPG. The EPG first at least support an overview of services listed with the service name, event_name, start-and stop-time (calculated from the duration). This first overview start the presentation based on the current time. It is possible to navigate between all the services and events according to time and date. It is possible to from a selected event get information that is more detailed. Spec is “ETSI EN 300 468 5.2.4 Event Information Table(EIT)”
AUTOMATIC service update based on SI signalling	If service is updated, STB automatically detect a service update and automatically update the service list. This automatically update is done at least when going from stand- by. STB check a NIT version, service list descriptor and logical channel descriptor in the NIT.
Dual-mono audio	The “Dual mono audio” support dual mono audio language on one stereo audio data. The “Dual mono audio” is specified both by MPEG (Mode Descriptor) and DVB (Component Descriptor and Language Descriptor). The mapping between the physical channels and the audio channels signalled in PSI is not specified in DVB directly. However EBU specifies in their EBU Tech. 3250 (the AES/EBU interface) the interpretation of channel 1 and 2 with respect to the left and right channel. This specification also applies for de-embedding AES/EBU audio. “Dual mono audio”is used two Language Descriptors are signaled referring to the left channel the second to the right channel.
DVB Subtitle	It is capable of decoding, as a minimum, a subset of the DVB subtitle services and transmitted in conformance with ETS 300 743 [21], and displayed using the OSD capabilities whilst decoding the full television service (video and audio) to which it is associated.
Teletext (VBI and OSD)	It is able to display Teletext using the OSD and/or by the insertion of the teletext data in the VBI of the analogue CVBS video output.

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Teletext subtitle	It is able to display Teletext subtitling, meeting the requirements for level 1.5 in ref. [ETS 300 706, "Enhanced Teletext Specification"]
Firmware Upgrade by OTA	The STB is capable of establishing a software upgrade via broadcast download based on the ETSI 102 006. The trp–File is supplied to the multiplex operator which includes the software. The multiplex operator specify the PID and together with the supplier the required Descriptors in the PMT and NIT. OTA function is included. It has no security risk. Normally, end user should be confirmed But the forced mode is supported
Installation Wizard	It is the typical end user installation that are optimized to quick and simple get the STB up and running, in principle all settings are automatically set to their default value to minimize the user interaction. User set the menu language, audio language, subtitle language and time. After setting the default value, the STB will go directly to channel searching menu.
Multiple Satellite channel searching	The STB search satellites selected by user automatically according to registered TP list. The add or change of satellites or TP list by user is available.
TP channel searching	User can make TP list and search the frequency range which user want.
NIT Scanning	NIT scanning is the procedure where the STB from the NIT and SDT finds all services and settings to quickly store and generate the correct channel list in the STB.
Service Ordering	The STB support several service ordering options. - All service list : ordered by number, service id, alphabetical or genre. - User defined service list (favourite list)
Service Organizing	The STB support rename, move or skip for service list.
Zapping Time	- Between Free channels : less then 1.5 seconds - Between Encrypted channels : less then 2.5 seconds